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ANALYSIS OF THE IMPACT OF EXCHANGE RATE FLUCTUATIONS OF THE MAJOR CURRENCIES OF THE WORLD ON AFRICAN ECONOMIES

CHAPTER I

INTRODUCTION

1. The importance of money in the modern world hardly needs to be over-emphasized; it is at the heart of all economic relationships. Money is essential as a means of payments, a store of wealth and a unit of account. The major problems facing the international community which include payments imbalances, inflation, recession, unemployment and the growing gap between rich and poor countries as well as the existence of barriers to trade are linked, in many ways, to difficulties of resolving the world payments system. In fact, it is this role that situates the international monetary system at the heart of today's debate on the functioning of the world economic system. 1/

2. Since the breakdown of the Bretton Woods system in 1973, the major world currencies began to float thus bringing about fluctuations in the exchange rates that are now being experienced. Thus the United States dollar, the British pound sterling and the Japanese yen have been floating relatively freely in comparison with the Deutchmark, the French franc and other European currencies which follow a regime of fixed but adjustable rates of exchange within the European Monetary System. 2/

3. Historically, African currencies have always been pegged to those of the colonizing countries. 3/ The monetary set up in Africa despite the floating of the major currencies is largely based on pegging of individual currencies to the major world currencies. With the attainment of independence in the 1960s, monetary and financial relationships between independent African countries and the rest of the world started to be largely dictated by economic variables rather than political ones. Some African countries have switched over time from one currency to another or from one currency to a basket of currencies. However, the fact remains that African currencies are hanging on to pegging practices in a world where the major currencies are floating. The monetary arrangement of developing Africa as of 1 January 1986 were as follows:

- 14 African countries are members of the Franc zone using C.F.A. franc which is pegged to the French Franc;
- 6 African currencies are pegged to the S.D.R.;
- 6 African currencies are pegged to the United States dollars

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1/ Herbert G. Grubel, The International Monetary System, Third Edition, Penguin Books 1977 p. 26.

2/ CAHIERS Francais No. 196, le systeme monetaire europeen, 1980 P. 27

3/ British colonies, French, Portuguese, Spanish.

- 12 African currencies are pegged to a basket of currencies of various composition;

- 2 African currencies are pegged to the South African Rand;

- 1 African currency is pegged to the Pound Sterling;

- 3 African currencies follow a managed floating exchange rate regime;

1 African currency's exchange rate is adjusted according to a set of indicators;

- 4 African currencies are floating independently. 4/

4. The movement of exchange rates of the major world currencies determines trade and financial transactions in the world. The appreciation or depreciation of a currency against others affects the prices of the goods and services that the country issuing the currency produces. It also has the effect to erode or improve the competitiveness of those goods and services on the domestic and foreign markets.

5. Fluctuations in the exchange rates of any of the major world currencies also affects the reserve assets as well as debt service payments which are denominated in the major world currencies. Some of these fluctuations are the result of financial and monetary policies adopted by countries issuing the major world currencies and which have wide ranging repercussions in domestic as well as foreign markets. The problems that are likely to arise from exchange rate fluctuations reveal themselves with particular acuity in the developing countries whose economies are weak, and whose currencies are inconvertible and are pegged to those of the developed countries.

6. It is in the light of the above that this study is aimed at identifying and analysing the effects of fluctuations in the exchange rates of the world major currencies on the African economies. A second objective is to make suggestions of methods of minimising their negative effects. Consequently Chapter II gives some possible effects of exchange rate fluctuations. Chapter III starts by outlining possible causes of exchange rate fluctuations before actually describing and analysing the fluctuations of the major currencies of the world as well as those of African currencies for the period 1980-84. Chapter IV will deal with the effects of exchange rate fluctuations on African economies. Chapter V will suggest methods of minimizing the negative effects of exchange rate fluctuations.

4/ International Financial Statistics, Volume XXXIX, Number 3, March 1986.

CHAPTER II

II. SOME THEORETICAL PREDICTIONS OF THE EFFECTS OF EXCHANGE RATE FLUCTUATIONS

7. The floating of the major world currencies has brought about a number of problems that the world community has to face. These problems appear through the effects of exchange rate fluctuations on trade, capital flows, debt service payments, reserve assets, local prices and economic growth. Movements in exchange rates of currencies change the relative prices of goods in any two countries when each is expressed in a common currency. In theory and other things being equal, goods produced in a country whose exchange rate depreciates become relatively cheaper while those produced in a country whose exchange rate appreciates become relatively more expensive. The end result is that goods of the country whose currency depreciates become more competitive on the home and foreign markets than those of the country whose currency has appreciated. The immediate result of a depreciation in a country's currency is an increase in the prices of its imports measured in the domestic currency and a decrease in the prices of its exports measured in the foreign currency that has appreciated. This may lead, in the short run, to a deterioration in the country's terms of trade.

8. With the passage of time, the volume of trade starts responding to the relative price changes brought about by the depreciation of a country's currency leading to an increase in exports and a decrease in imports and an improvement in the country's balance of trade. Whether the resulting change in the volume of trade is sufficient to offset the initial adverse terms of trade will depend on the magnitude of domestic and foreign demand and supply elasticities. If the elasticities are of the right order there will be a "J" curve response to the depreciation of the country's currency which means that an initial deterioration in the trade balance is followed by a longer term improvement.

9. Exchange rate fluctuations affect the movement of capital across national borders. A country with an appreciating currency tends to attract more capital and is most likely to generate more private investment from abroad while one with a depreciating currency will tend to lose capital and generate less investment from abroad. The perceived predictions of exchange rate movements could bring about movements of speculative funds which themselves could aggravate exchange rate fluctuations. Exchange rate fluctuations also affect the official capital flows to developing countries through their effects on the balance of payments of the developed countries. Faced with balance of payments problems, developed countries sometimes adopt deflationary policies including a reduction in government expenditure leading to a contraction in official aid to developing countries.

10. Since all debts are denominated in one or more of the major world currencies, the exchange rate fluctuations of those currencies affect the magnitude of the debt service payments of the debtor countries. A rise in the currency in which a country's debts are denominated against currencies of countries to which its exports are destined will have an adverse effect on the debt service payments of that country in the sense that it will require more of the currencies in which its exports are denominated in order to service its debts. While a depreciation of the currency in which its debts are denominated against those in which its exports are denominated would ease the debt service burden of that country.

11. The exchange rate fluctuations of the major currencies also change the relative prices of tradeable goods to the non-tradeable ones. This change in relative prices is reflected domestically in the prices of imported goods and the cost of production of those goods which include imported ingredients. The tradeable goods whose prices are internationally quoted in one of the major world currencies will be more or less expensive depending on the ruling rate of the currency of purchase as against that of quotation of the commodity concerned.

12. Exchange rate fluctuations also affect economic growth through their effects on a country's capital stock, its inocme, investment and employment. A rise in the prices of a country's imports due to exchange rate fluctuations decreases its import capacity including imports of capital goods and thereby reducing economic activity thus resulting in a decline in capital stock, investment and employment. This effect is particularly marked in countries which depend largely on imported inputs. On the other hand a country with an appreciating currency will experience a rise in economic activity together with an increase in investment, employment.and income. A country with a big export sector will suffer more from a rise in its exchange rate than one with a less important export sector.

13. Reserve assets held in a variety of currencies whose exchange rates are fluctuating are also likely to be affected. A rise in the exchange rate of a currency in which reserve assets are denominated increases the value of its reserve assets in terms of other currencies. On the other hand, a fall in the exchange rate of a currency in which reserve assets are denominated will decrease the value of those assets in terms of other currencies.

CHAPTER III

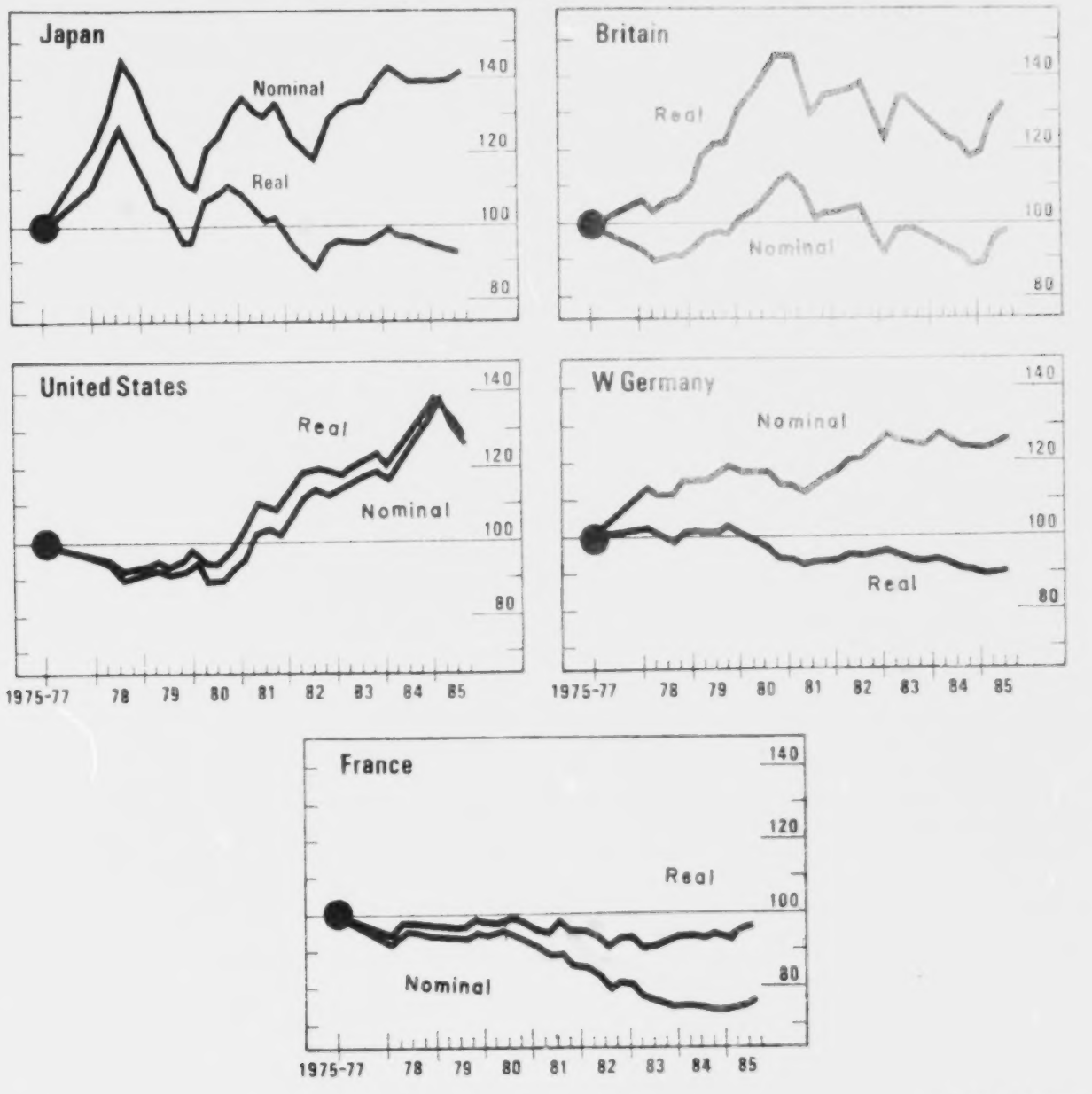
III. EXCHANGE RATE FLUCTUATIONS DURING THE PERIOD 1980-1984

A. Exchange rate fluctuations of the major currencies

14. The industrialized countries which issue world major currencies have since 1973 adopted a regime of floating exchange rates. There has, however, been some central bank intervention here and there in favour of some currencies but the general tendency seems to be towards flexible exchange rates as reflected in the frequent movement of exchange rates in the recent past. 5/ The fact that major currencies float against each other makes it difficult to derive a simple index of movements in any of the world major currencies. In order to measure these movements, the current practice is to rely on the effective exchange rate of currencies which is a suitably weighted average of the movements of a country's currency against the currencies of its main trading partners. In the following analysis we will look at the behaviour of the real effective exchange rates (effective exchange rates adjusted for inflation) of five of the world major currencies namely the United States dollar, the Deutschmark, the Pound Sterling, the Japanese Yen and the French Franc.

5/ CAHIERS Francais: crise persistente du system monetaire international No. 198. P. 23

Trade weighted exchange rates 1975-77 = 100



Source: Morgan Guaranty

Source: The Ecoromist, 5-11 October 1985 (Monetary Reform Survey 41).

15. The nominal as well as real effective exchange rates of all five currencies have moved rather erratically during the period under consideration. The United States dollar is the only currency whose real effective exchange rate has steadily risen during the period 1980-1984. The British pound, the Deutschmark, the Japanese Yen and the French Franc have all experienced a real effective exchange rate decline although their nominal rates have appreciated except for the British pound and the French franc.

16. The Deutschmark is the only currency which after a rather sharp fall in real effective exchange rate at the end of 1980 has maintained an almost even real effective exchange rate throughout the period under review. In fact, its real effective exchange rate is at the same level in 1984 as at the end of 1980 and beginning of 1981. Its nominal exchange rate on the other hand has appreciated by around 15 per cent between 1980 and 1984.

17. In the case of the other four currencies, their real effective exchange rates have had sharp falls and rises during the period under review. There was, however, an unmistakable downward swing in the real effective exchange rate of the British pound and the French franc in contrast with the upward swing of the United States dollar since 1980. During the period 1980-84, the Japanese Yen was characterized by upward and downward swings.

18. The United States dollar real effective exchange rate has appreciated by around 37 per cent over its 1980 level; its nominal exchange rate has appreciated by almost the same percentage. This is a very large swing upwards over a relatively short period of time.

19. The British pound, the Japanese Yen and the French franc real effective exchange rates have depreciated compared to their 1980 level by 28 per cent, 18 per cent and 8 per cent respectively. On the other hand, the Deutschmark real effective exchange rate depreciated by only 2 per cent compared to its 1980 level. It could be drawn from the above description that the period 1980-1984 was marked by an unprecendented rise in the real effective as well as nominal exchange rates of the United States dollar. The real effective exchange rate of the Deutschmark has shown a remarkable stability during the four-year period under review despite a rise of around 10 per cent in its nominal exchange rage.

20. The real effective exchange rate of a country's currency constitutes a measure of the price competitiveness of its products. Therefore, the rise in real effective exchange rate of the United States dollar during the period 1980-84 largely explains the balance of trade deficit of the United States with West Germany, Britain, Japan and France. This persistent balance of trade deficit is at the origin of the protectionist feelings in the United States which led to the politics of voluntary restraint in Japan and the outright imposition of import quotas on certain commodities coming into the United States.

21. The continued strength of the United States dollar during 1984 oonstituted a powerful factor in favour of imports into the United States and the exports of its trading partners continued to be very substantial. West Germany increased its sales to the United States by 40 per cent in 1984. 6/

22. The rise of the United States dollar over the period 80-84 can be explained by the fast and steady growth that the United States economy has achieved over

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6/ The Economist, July 1985.

the same period; the rate of growth registered during 1984 stood at 5.8 per cent a year. The dollar has also been propelled upwards by the economic policies of the United States administration which consisted of a tight control on monetary aggregates and the running of a huge budget deficit largely financed by government borrowings. These policies have no doubt largely contributed to the rise in interest rates in the United States leading to a high demand for the United States dollar and bidding up its exchange rate.

B. Fluctuations of African currencies

23. Since most African currencies are pegged to one or more of the world major currencies, the exchange rate movements of those currencies inevitably affect African currencies. Here again real effective exchange rates are a good guide to the exchange rates fluctuations of African currencies.

24. The chart table 2 applies to all developing countries with pegged currencies during the period 1980-83. Consequently African currencies pegged to the US dollar appreciated in real terms by about 25 per cent compared to their 1980 level. Those currencies pegged to a composite of currencies and to the SDR appreciated by 11 per cent and 5 per cent respectively compared to their 1980 level. African currencies pegged to the French franc and those following other exchange rate arrangements depreciated in real terms by 7 and 6 per cent respectively as compared to their 1980 level. It is clear from this analysis that the real effective exchange rates of African currencies have closely followed the behaviour of the currency or currencies of peg during the period under consideration.

25. The appreciation of African currencies pegged to the United States dollar is due to the steady rise of the United States dollar over the period 1980-1984. The depreciation of those currencies pegged to the French franc is due to the decline of the French currency during the same period. African currencies pegged to SDR have appreciated by 5 per cent over the period, showing the relative stability of the SDR compared to any single major currency taken in isolation.

26. The export competitiveness of those countries whose real effective exchange rate has depreciated should have increased and this should have had a positive effect on their balance of trade. Those countries whose real effective exchange rates have appreciated should have experienced an erosion in their exports competitiveness with a negative effect on their balance of trade.

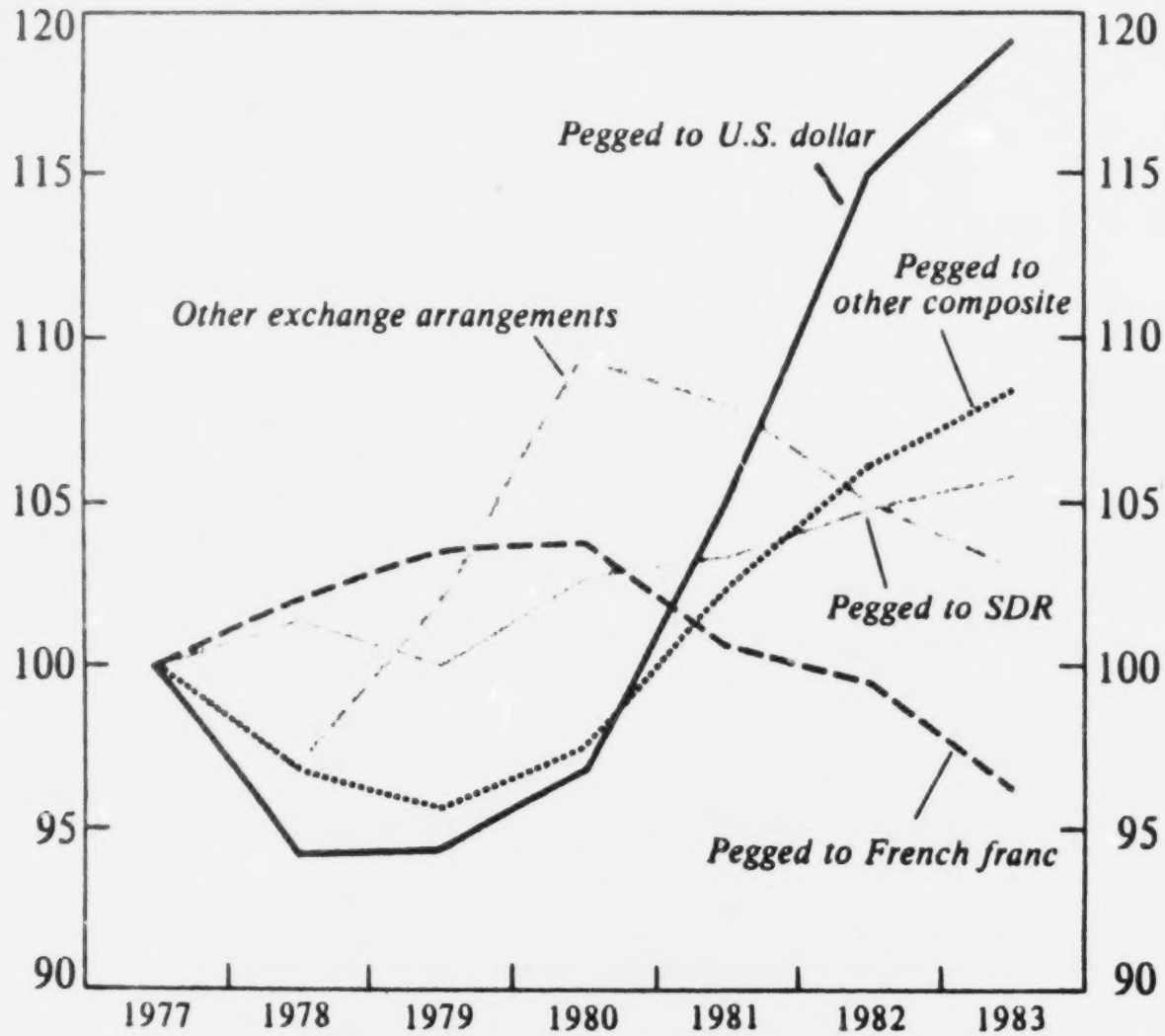
27. In the case of Africa, most countries experienced balance of trade problems during the period under review. For example, countries of the West African Monetary Union whose currency is pegged to the French franc and which should have had favourable trade balances during the period, all registered balance of trade deficit. 7/ This is certainly due to a host of other factors that have affected the African economies in recent years which will be discussed in the next chapter. Countries whose effective exchange rates have appreciated have also experienced balance of trade problems as expected.

7/ Banque centrale des Etats de l'Afrique de l'Ouest, notes d'informations et statistiques, mars 1985.

Table 2

Developing Countries: Real Effective Exchange Rates by Exchange Arrangements, 1977–83 [1]

(Indices, 1977 = 100)



[1] These indices measure the evolution of a country's prices relative to those of its trading partners, adjusted for exchange rate changes. Prices are measured by the average annual consumer price index, with indices of partner countries averaged by using import weights, and exchange rates are measured by an import-weighted index of average annual effective exchange rates. Group indices are unweighted averages of country indices.

Source: IMF, Annual Report, 1984.

C. Possible cause of exchange rate fluctuations

28. Exchange rate fluctuations are the result of various factors whose origin could either be internal or external. Inflation is one of the major factors affecting exchange rates. The differences between inflation rates in two countries determines how far the value of one currency is eroded in terms of the other and therefore the exchange rate of that currency in terms of the other currencies. Possible causes of inflation have been the subject of many debates: imported inflation, demand pull inflation and wage push inflation have all been advanced at one time or another as causes of the rise in the rates of inflation in the industrialized countries. 8/

29. A monetary explanation of demand pull inflation puts more emphasis on the supply of money. 9/ The speed of monetary growth in one economy relative to another will determine how the exchange rates between any two countries move. An increase in money supply will result in inflation and may lower the exchange rate of that country's currency in terms of those of other countries. One qualification to this theory is that if the country increasing its money supply is growing faster than the others, the increase in money supply will not lower the value of its currency if some of the extra supply of money finances a faster rate of real economic growth. Anticipated exchange rate movements lead to a depreciation or an appreciation of a currency according to the expected move in its exchange rate. Interest rates constitute another factor that influences exchange rates. A country with high interest rates attracts capital from low interest rate countries leading to an increase in the demand for its currency and a rise in its exchange rate. A decrease in the demand for a currency will lower its exchange rate against other currencies thereby leading to capital flight.

30. Under floating exchange rates, the prices of currencies are ultimately determined by supply of and demand for those currencies which themselves depend on the supply and demand for the goods and services produced in the countries issuing those currencies. A rise in the demand for goods and services produced in a country tends to raise the demand for its currency and bid up its exchange rate. A fall in the demand for the goods and services of a country will tend to decrease the demand for its currency and to lower its exchange rate. Under a fixed exchange rate regime, the prices of currencies are not determined by demand and supply but are fixed by government decision usually based on various economic criteria.

CHAPTER IV

IV. EFFECTS OF EXCHANGE RATE FLUCTUATIONS ON AFRICAN ECONOMIES

A. Effects on exports and imports

31. The period under consideration has been a particularly difficult one for Africa. It was essentially marked by a recession in the developed countries with the accompanying fall in demand for African exports, mounting debt service

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8/ A.R. Prest and D.J. Coppock: A manual of applied economies, Sixth Edition, Weidenfeld and Nicholson, 1976 p. 37.

9/ A.C.L. Day, Outline of Monetary Economics, Oxford at the Clarendon Press, 1958. p. 264.

burden and a host of natural disasters that have profoundly upset the whole process of economic development. The balance of trade position of non-oil developing Africa continued to show a deficit over the last four years. Exports earnings of these countries decreased from US$54,83 billion in 1980 to US$42,520 billion in 1983 or a 28 per cent drop over a period of three years. The value of imports of the same group of countries also decreased but not by as much as exports; they dropped from US$55,69 billion in 1980 to US$45,11 billion in 1983 or a decrease of 23.4 per cent. 10/ The lower decrease in imports registered reflects the importance of African imports which take mainly the form of food and capital, which items are very difficult to cut back.

32. The fall in the prices during this period, of mineral and agricultural products which are Africa's main exports certainly contributed to the decrease in exports earnings. The severe drought which has affected Africa in recent years has also contributed to the decrease in the volume of agricultural exports. In addition to the above two factors, fluctuations in the exchange rates of the major currencies have had a negative effect on trade. A simple regression analysis shows that there is a very strong correlation between exchange rate fluctuations and the value of exports and imports of African countries. In a sample of four African countries Egypt, Benin, Ivory Coast and Cameroon, the squared correlation co-efficient was above 0.50 in all cases. The correlation is particularly strong in the case of three franc zone countries where the squared correlation co-efficient is above 0.60 for all three countries. The calculation of these co-efficent shows in all cases that the correlation, between exchange rate fluctuations and imports is much stronger than the one for exports which shows clearly the negative impact that exchange rate fluctuations have on the value of African imports.

33. It could be inferred from the results that the rise in the value of African imports is partly due to exchange rate fluctuations and therefore partly explains the balance of trade deficit that African countries have experienced recently. For the countries considered, the percentage increase in the value of imports over the period 1980-83 outstrips by far the percentage increase in the value of exports over the same period. In the case of Egypt, the percentage increase in the value of exports was 26 per cent over 1980-83 while that of imports was 32 per cent. The increase in the value of Cameroon's exports during 1980-83 was 24 per cent while the increase in the value of imports was 34 per cent during the same period. 11/ (For country results and data see Appendix I page 1,2,3)

B. Effects on local prices

34. A large proportion of the goods and services consumed in some of the African countries are imported so that a rise in the international prices due to exchange rate fluctuations is immediately translated into higher local prices which could lead to inflation and the ensuing erosion in the standard of living of the populations of these countries. The Ghanaian cedi's exchange rate depreciated from 2.750 cedi for one US dollar in 1980 to 50 cedis for one US dolar in 1984. 12/

10/ International Finance Statistics, Vol. XXXVIII, No. 5, May 1985 p. 71

11/ Percentages calculated from data in Annex I pages 1 and 2

12/ IMF International Financial Statistics, 1985 Vol. XXXVIII, No. 5 P. 212.

The depreciation was such that the US dollar prices of imported commodities expressed in cedis have increased 13 times within a period of four years. The depreciation of the cedi is translated into an increase in terms of cedis of the prices received for exports which would lead to an increase in the supply of money starting thereby an inflationary process in the economy. The Kenyan shilling, the Nigerian Naira, the Algerian Dinar have all experienced rather large exchange rate depreciations as against the United States dollar resulting in increases in local prices of imported commodities.

35. Those African countries which have attempted to develop an industrial base through import substitution still produce goods with high import content. These industries are very sensitive to price increases of imported inputs due to exchange rate fluctuations. Commodities such as oil whose international prices are usually quoted in US dollars became more and more expensive for the oil importing countries of Africa during the period under review. The negative effects although slightly diminished by the recent fall in oil prices, are still being felt.

C. Effects on reserve assets

36. African countries in 1960's held most of their reserves in the currencies of the former colonial powers, a course of action largely dictated by the strong commercial and financial links existing between these two groups of countries. 13/ It was noticeable in the 1970's that trade and financial transactions of African countries were becoming more and more diversified, a trend that continued throughout the 70s into the 1980S. The situation today is that financial and trade transactions of African countries take place with a variety of partners bringing about the use of a variety of floating currencies. The frequent changes in the values of these currencies increased the foreign currency requirements of African countries in order to try and preserve the real value of their foreign currency reserves.

37. Those African countries holding their reserve assets in major currencies other than the US dollar have experienced decrease in the value of their reserve assets in terms of the US dollars because of the rise of the US dollar against all the other major currencies. The magnitude of depletion of the foreign currency reserves of African countries, although not entirely due to the strength of the US dollar leads to the conclusion that the foreign currency reserves of the countries were held in currencies other than the US dollar and the strength of the latter did contribute to the dwindling of the reserves. For example the reserves of Nigeria have fallen from US dollar 10,235 million in 1980 to US dollar 1,462 million in 1984 or a drop of 85 per cent over four years; those of Morocco have decreased by 88 per cent over the same period from US dollar 390 million in 1980 to US dollar 49 million in 1984. 14/

13/ S.R. Dixon-Fyle La gestion des taux de change et des paiements en Afrique dans des conditions de flottement generalise des principales monnaies E/CN.14/AMA/59 P. 77 Para. 151 30 Octobre 1974

14/ IMF International Financial Statistics 1985, Vol. XXXVIII, No. 5. Nigeria P. 348. Morocco P. 329.

D. Effects on debt service payments

38. Development needs of developing countries and the eagerness of commercial banks to recycle the huge amounts of funds they had on deposit in the aftermath of the first oil price rise (1973-74) was one of the main factors leading to the unprecedented increase in the indebtedness of developing countries. African countries have had their share in this phenomenon which finally led to the debt servicing crisis of the 1980's. African countries found themselves facing increasing debt service obligations while at the same time experiencing a fall in the value of their exports. The total debt service payments of African countries has increased 42 per cent over the period 1980-1984 from a total of US$11,019.7 million to US$15,725.7 million in 1984. The percentage increase from one year to another shows clearly the rising trend of debt service payments which increased by 8.6 per cent from 1980 to 1981, by 9.3 per cent from 1981 to 1982, 6.09 per cent from 1982 to 1983 15/ and 14.2 per cent from 1983 to 1984.

39. Since the debt is denominated in foreign currency and mainly US dollars and since African countries still conduct a major part of their trade and financial transactions with European countries, the high and steady rise of the United States dollar in recent years has had a negative effect on the debt service payments of the countries in the sense that it increased the value of their US dollars denominated debt stocks in terms of major world currencies which they used to service debts. The value of debt service payments of the Republic of Benin related to the changes in the French franc/US dollar exchange rate over a period of 5 years 1978-1983 shows a very high correlation between the exchange rate and value of debts service payments. A regression analysis, based on the assumption that the debt service payments of Benin are entirely settled in United States dollars while Benin export earnings are entirely denominated in French franc, shows that changes in the French franc/US dollar exchange rate explains 82 per cent of the changes in the debt service payments of that country. (For data and results see Annex II).

E. Effects on economic growth

40. Economic growth in Africa is significantly dependent on the foreign sector for two main reasons: first, foreign aid and long term private capital flows into African countries play a significant role in supplementing domestic savings and increasing the rate of growth; domestic savings not being enough to finance the desired rate of growth. Second, the fact that capital equipment is mostly manufactured abroad makes developing countries dependent heavily upon imported capital equipment. This particular characteristic of African countries makes the availability of foreign exchange a crucial element in investment and capital formation. 16/ The foreign exchange earnings of these countries are a major source of funding for their development plans hence the effects of exchange rate fluctuations on their economic growth.

15/ World Bank, World Debt Tables, 1984-1985.

16/ A.B. crockett and Saleh M. Nsouli Exchange rate policy for developing countries. P. 645 in money and monetary policy in less developed countries. A survey of issues and evidence Edited by Coats and Khatkhate Pergamon Press 1980.

41. In planning their development process, the countries proceed by estimating the amount of foreign exchange earnings they have to earn in order to be able to implement the various projects. If foreign exchange earnings are in currencies different from those used for purchasing capital equipment, the development plans of the countries will be adversely affected if the currency of purchase of capital equipment appreciates against those in which foreign exchange is earned in the sense that the planned volume of exports at a given price will not earn the required amount in terms of the currency of purchase of capital equipment because of the latter's appreciation. On the other hand, if the currency in which foreign exchange earnings are denominated appreciates as against that which is used for the purchase of capital equipment, the countries will gain as they will need less of their foreign exchange earnings to purchase the planned capital equipment. The countries which buy mainly from the United States or which buy in US dollars and whose foreign exchange earnings are in other currencies have no doubt sufferred from the strength of the dollar against other currencies. Those which buy in other currencies and whose foreign exchange earnings are in US dollars have gained from the stength of the US dollar. The fact that the US dollar was strong over recent years has attracted a lot of capital to the United States which inevitably lessen the share of investment available for the rest of the world including Africa.

CHAPTER V

V. METHODS OF MINIMIZING THE NEGATIVE EFFECTS OF EXCHANGE RATE FLUCTUATIONS.

42. The volatility of exchange rates over the last four years has had negative effects on developing and developed countries alike. It is, however, the poorest countries of the world that suffered most because of their limited powers in international monetary affairs and the vulnerability of their economies. In Africa, these negative effects were accompanied by a host of other problems that made matters worse. Unfortunately there are no golden rules nor are there any general prescriptions for solving the problems arising from exchange rate fluctuations. The developed countries which issue the major world currencies are themselves having a rough time to attain desirable exchange rates for their currencies. There is, however, a certain number of methods that could help minimize the negative effects of exchange rate fluctuations.

A. Use of forward exchange markets

43. This is an established system in most developed countries and which has been constantly improved upon. It consists of the sale or purchase of currencies for delivery at a future date and at an agreed fixed exchange rate at the time of the transaction. These markets became more active in the early seventies as a direct result of the adoption of floating exchange rates. The basic aim being that of minimizing the effects of exchange rates fluctuations.

44. Although forward exchange markets dealings have helped minimize the uncertainty about future exchange rates, they have a major drawback which is that a customer say an exporter being locked into a forward contract could sustain heavy losses if his contract with the foreign importer falls through, the reason

being that he will still have to honour his contract. A remedy to this drawback has been devised recently in the form of option contracts which remove the obligation to carry out the forward contract. 17/ In the case of commodities the use of commodity future markets is very helpful as a hedging mechanism against price fluctuations which could sometimes be more harmful than exchange rate ones. So the use of both markets will be helpful in minimizing both exchange rate and price fluctuations.

45. In most African countries exports and imports are usually specified in one of the major foreign currencies of the world all of which are traded in forward exchange markets in the main financial centers of the world. These same forward exchange markets could be used by importers and exporters from African countries. In the case where imports or exports are specified in local currency, then a forward cover will be needed between a specific foreign currency and the local currency. The local currencies which are not traded in forward exchange markets cannot be used for such transactions. One solution could be that the central bank of the country guarantees the rate of the local currency to the foreign currency for a period of say six months or more for the recipient of foreign exchange. This one sided type of forward exchange facility was the one adopted by the Government of India in 1974. 18/ It would, however, be difficult for a central bank to sell foreign currency forward in the face of possible foreign currency appreciation. The use of this one sided forward cover for exports seems most appropriate for African countries since it encourages exports and it is almost riskless; the appreciation of the local currency against the foreign currency is in most cases government controlled and unlikely to occur. For the time being African countries should use the forward exchange markets available in the main financial centers of the world until such a time that African forward exchange markets could be created. The establishment of these markets should be the subject of detailed studies.

B. Use of counter-trade

46. Counter trade is a tool to minimizing the effects of exchange rate fluctuations in so far as it avoids or diminishes dealings in foreign exchange. In the prresent circumstances of foreign exchange shortage, counter trade could be a useful tool. In fact it is already used by many developing countries eager to save their much needed foreign exchange. Recent developments in the use of counter-trade has led to a number of techniques that are commonly used at the moment. For instance;

(a) Counter purchase - Any contract of purchase from a supplier is accompanied by the sale to the supplier of a certain quantity of goods amounting to a certain percentage of the value of the contract.

17/ Developments in Financial Risk Control, Barclays Briefing, No. 66 March 1985.

18/ The Indian government offered forward exchange guarantee to exporters of capital goods with anticipated payments in the future (18 months to 10 years) accruing in pound sterling, US dollar, Deutschmark and yen.

Source: Reserve Bank of India, Exchange Control Dept. quoted by William Cline in International Monetary Reform and the developing countries. P. 33, The Brookings Institution, 1976.

(b) Offset trade - The supplier has to invest a certain percentage of the proceeds of his contract in the customer country.

(c) Barter trade - This is direct exchange of goods for goods.

(d) Buy back trade - The foreign supplier is partly or wholly paid through the sales of the products of the project for which he has supplied the equipment.

47. Counter-trade has the major advantages of helping to save the scarce foreign currency of the importing countries and make the foreign supplier share the responsibility of payments for his goods and services. However, it is acknowledged that transactions of this kind are not as convenient as those settled through money payments and they put certain constraints on the flows of trade and trade growth 19/ but in a situation of crisis such as that faced by most African countries at the moment, counter-trade is a possible alternative in overcoming this problem.

C. Foreign currency reserve management

48. Floating exchange rates whose proponents were of the opinion that with their introduction the need for foreign exchange reserve would diminish, have in fact not changed the foreign currency reserve scene compared to the previous system of fixed exchange rates. Foreign currency reserves are still widely held and in great quantities. In the case of African countries, the introduction of floating exchange rates has made their foreign exchange reserve management all the more complicated.

49. One possible solution to such a dilemma would be the holding of a balanced portfolio of foreign currency assets as the country's reserve assets. The composition of the foreign currency assets held in reserves should be related to the shares of various trading partners in the country's imports as well as a proportionate mix of foreign currencies in which debt and debt service obligations are denominated. The diversification of foreign exchange reserves geared to a country's imports and its debt service obligation will help minimize the effects of exchange rate fluctuations of the major currencies on its reserve assets. The use of SDR as a reserve asset will even be a better way to avoid exchange rate fluctuations wiping out the value of the reserve assets of a given country in the sense that they are more stable than the individual currencies.

D. Exchange rate management

50. As mentioned in Chapter I, the monetary set up in Africa is characterised by the wide use of pegging either to one currency or to a basket of currencies including the SDR. Pegging to a single currency, has major drawbacks compared to pegging to a basket of currencies or the SDR. One of these major drawbacks is that movements in the pegged exchange rate of the developing country does not reflect actual developments in its balance of payments, they rather reflect developments in the balance of payments of the industrial country to which the

19/ A.C.L. Day outline of monetary economics, Oxford at the clarendon Press., 1958. P. 4.

currency of a developing country is pegged. 20/ Another drawback is that fluctuations in the exchange rate being exogenous and independent of the developing country's government policy may interfere with the pursuit of internal policy objectives. A third disadvantage is that exchange rates between currencies of developing countries will vary according to their currency of peg. This drawback is particularly disadvantageous to intra-regional trade. It is in order to minimize these disadvantages that some developing countries have resorted to pegging to a basket of currencies or the SDR, the problem with pegging to a basket of currencies is that their composition vary from country to country leading to exchange rate variability just like in case of pegging to a single currency. In order to overcome some of these drawbacks some developing countries have elected to peg their currencies to the SDR, the unit of account of the IMF which has international status and whose value is determined and published daily which makes it much more convenient basket of currencies to peg to than the various other baskets of currencies.

51. Since the adoption of flexible exchange rates by the major industrialised countries, the nominal as well as real effective exchange rates of their currencies have been fluctuating against each other. African currencies which are pegged to these currencies should also be more flexible. Since most African currencies are not following a policy of adjusting exchange rates, their rates are fixed by central authorities. African countries should adjust the exchange rates of their currencies every now and then in response to long term trends of exchange rate movements of the major currencies. This would help to avoid serious misalignments of African currencies and their consequences on economic growth.

52. Short of an African common currency which will no doubt be one of the major currencies of the world, African countries should apply more flexible exchange rate management in line with their economic development objectives and for the sake of external and internal equilibrium. For exchange rate management there is no standard system that could be recommended but the choice of the exchange rate system and its management will depend on the country concerned and its trading and financial relationships with the issuers of the major world currencies.

2. Better borrowing techniques

53. In a situation of floating exchange rates and the likelihood that such frequent exchange rate movements could adversely affect the indebtedness of developing African countries, it is important to apply rational borrowing techniques designed to minimize the effects of exchange rate fluctuations on African external indebtedness. The following guidelines are suggested:

(a) African developing countries could alleviate problems arising from exchange rate realignments by contracting debts among industrial countries in proportion to the share of their imports from the countries from which they borrow.

20/ A.S. Crockett and S.M. Nsouli, exchange rate policies for developing countries P. 648 in Money and Monetary policy in less developed countries; A survey of issues and evidence edited by Coats and Khatkhate Pergamon Press 1980

The result would be that an increased real debt service burden on the portion of debt held by an industrial country with an appreciating currency would tend to be offset by increased earnings from exports sales to that country. The currency of the exporting country depreciating against that of the importing developed country would lead to a proportionate increase in the borrowing country's export sales to the lending country operating on an original trade base proportional to the latter's weight in the debt portfolio.

(b) Debts contracted should be as diversified as possible in their foreign currency denominations. This would help avoid the risks of contracting debts in only one currency which could result in greater debt burdens if such a currency appreciates: debts denominated in a mix of currencies are safer as the movements of currencies against each other will tend to compensate possible gains or losses.

(c) African countries countries could also negotiate that their debts be denominated in SDR. The SDR has the advantage of being more stable in effective value than its component currencies which will give the debtor country assurances for more stability in their debt burdens.

(d) African countries should also attempt as far as possible, to negotiate right from the start a scheme with the lenders governing the treatment of increases in debt burden resulting from currency realignments. Such extra debt burden should be shared between the borrower and the lender and not be borne entirely by the borrower as is the case at the moment. In order for these techniques, which relate only to the exchange rate problems of loans to succeed, they should be backed by similar techniques for interest rates and proper management of external debt (e.g. funds invested in productive projects etc.).

F. More intensive use of clearing and payments arrangements and promotion of the convertibility of African currencies

54. The existence of clearing houses in the various African subregions namely Western, Central Eastern and Southern promotes the acceptability of African currencies in intra-African trade. African currencies being numerous and inconvertible (except the Liberian dollar and CFA franc), the role of clearing houses becomes all the more crucial. The settlement of trade transactions through the clearing houses does, to a certain extent, reduce the need for and use of foreign currencies for such transactions thereby preventing losses due to exchange rate fluctuations. The gains in terms of foreign exchange are enormous when compared to undertaking the same transactions through foreign banks and with hard currencies.

55. Unfortunately intra-African trade is very limited at the moment and it does not all go through the existing clearing houses. In order to optimize the gains in terms of foreign exchange from the clearing houses there must be a big increase in the volume of intra-African trade which should be entirely channeled

through the clearing houses. The establishment of an African Monetary Fund 21/ will help minimize exchange rate fluctuations in the sense that it will harmonize exchange rate policies of African countries and promote the convertibility of their currencies.

G. Reform of the international monetary system

56. It is clearly in the interest of all countries especially the least developed ones to live in a world of stable exchange rates. 22/ Although this is recognized and desired by developed and developing countries alike, progress towards such a stable system has proven to be slow so far. The present differing economic and monetary policies applied by the developed nations of the world are the main reasons behind the fluctuations of their currencies against each other which in turn affect developing countries. Since the adoption of floating exchange rates the world has experienced inflation in the 1970's followed by a recession in the 1980's. Although these problems could not be entirely blamed on the monetary system the latter has undoubtedly played a part in bringing them about.

57. Developing African countries should press for the reform of the international monetary system to set up a mechanism for international monetary co-operation that will stabilise exchange rates and interest rates and promote capital and trade flows. The new system should also, in the light of the recent balance of payments disequilibria experienced by developing countries provide new formulae for adequate financing of such disequilibria. The present major role played by the United States dollar in the international monetary system should be looked into so as not to repeat the problems that finally brought down the Bretton-woods system. In this respect, the strengthening of the SDR as a unit of account, an international reserve asset and a means of payment is to be encouraged.

CONCLUSION

58. The exchange rate fluctuations of the major currencies of the world did have negative effects on the already weak African economies during the period 1980-1984. These effects certainly contributed to the almost general balance of payments deficits of African countries over the period considered and the slowing down of economic growth all over the continent. The present study considered the effects of exchange rate fluctuations on external trade, local prices, debt service payments, reserve assets and economic growth and suggested methods of minimizing the negative effects of these fluctuations. The methods suggested included the use of forward exchange markets to protect against losses arising from exchange rate changes, the use of various forms of counter trade to help save scarce foreign exchange as well as some reserve management techniques geared towards the holding as foreign exchange reserves of an appropriate mix of foreign currencies related to the imports of the country and the currencies of denomination of its debt service obligations. Various alternatives of exchange rate management were also discussed in the paper to show the advantages and disadvantages of each alternative. A number of borrowing techniques were suggested including the contracting of debts among industrial countries in proportion to the share of each industrial country in the exports of the borrowing country. An increase in intra-African trade and a more intensive use of clearing houses were also recommended to help save foreign exchange in African countries.

21/ Objective No. 3 and 6 in the feasibility study: Establishment of African Monetary Fund: Structure and Mechanisms.

22/ George Macesich, The Internationa Monetary Economy and the Third World p. 253. Praeger Special Studies 1981.

ANNEX I

CAMEROON

Year	Exports (in million CFA Franc)	Imports (In million CFA Franc)	CFA/SER Exchange Rate
1975	145,581	178,611	260.22
1976	198,500	233,700	275.31
1977	230,800	260,700	286.33
1978	259,400	310,100	282.50
1979	378,600	366,400	274.84
1980	388,500	462,100	275.02
1981	434,800	531,200	320,41
1982	484,300	618,800	361.80
1983	509,800	701,800	381,07

After logging the above data and carrying out a simple regression analysis in which we take the CFA/SDR exchange rate as the explanatory variable and the exports and imports as dependent variables, we obtain the following estimated results:

Exports

R^2 : .5609
Sums of squares
Total: 1.54055
Explained: .87801
Residual: .66254
95% C.I. for R^2 .0332 - .8934
Constant: -1.34783
Co-efficient: 2.45427
STD Error: .80580

Imports

R^2 : .6934
Sums of squares
Total: 1.72804
Explained: 1.19828
Residual: .52976
95% C.I. for R^2 .1423 - .9290
Constant: -3.51879
Co-efficient: 2.86716
STD Error: .72055

The above estimated results show that variations in the regressor in this case the CFA/SDR exchange rate explain 56% of the variation in exports and 69% of the variations in imports.

1% Source of Data: ECA Statistics Division

2% Model used: Interactive software for Econometric Analysis by John Eaton of the London Business School.

3% The Exchange rates are taken from various editions of the International Financial Statistics of the IMF.

EGYPT

Year	Exports (In million Egyptian £)	Imports (In million Egyptian £)	EGŁ / SDR Exchange Rate
1975	602	884	.47510
1976	695	877	.45177
1977	1773	2675	.45686
1978	1945	3316	.48991
1979	3252	5254	.90440
1980	5097	6522	.91107
1981	5787	8048	.82541
1982	6681	8694	.77281
1983	6913	9557	.73286

After logging the above data and carrying out a simple regression analysis in which we take the Egyptian pound/SDR exchange rate as the explanatory variable and the exports and imports as dependent variables, we obtain the following estimated results:

Exports	Imports
R^2 = .7011	R^2 = .6707
Sums of squares	Sums of squares
Total: 6.74346	Total: 6.91353
Explained: 4.72813	Explained: 4.63713
Residual: 2.01534	Residual: 2.27640
95% C.I. for R^2 .1523 - .9310	95% C.I. for R^2 .1153-.9228
Constant: 9.00244	Constant: 9.33396
Co-efficient: 2.49755	Co-efficient: 2.47340
STD Error: .61630	STD Error: .65501

The above estimated results show that variations in the regressor in this case the EGŁ/SDR exchange rate explain 70% of the variations in exports and 67% of the variations in imports.

1% Source of Data: ECA Statistics Division

2% Model Used. Interactive software for econometric analysis by John Eaton of the London Business School.

3% The Exchange rates are taken from various editions of the International Financial Statistics of IMF.

BENIN

Year	Exports (In million CFA franc)	Imports (In million CFA franc)	CFA/SDR Exchange Rate
1975	30,647	55,727	260.22
1976	31,613	54,347	275.91
1977	43,328	73,651	286.83
1978	50,014	80,889	282.50
1979	53,607	90,378	274.84
1980	62,490	105,760	275.02
1981	65,240	122,650	320.41
1982	74,780	141,550	362.80
1983	87,380	161,290	381.07

After logging the above data and carrying out a simple regression analysis in which we take the CFA/SDR exchange rate as the explanatory variable and the exports and imports as dependent variables we obtain the following estimated results:

Exports

R^2 = .6572
Sums of squares
Total: 1.04890
Explained: .68930
Residual: .35960
95% C.I. for R^2 .1008- .9190
Constant: -1.53346
Co-efficient: 2.17459
STD Error: .59366

Imports

R^2 = .7307
Sums of squares
Total: 1.19070
Explained: .87001
Residual: .32068
95% C.I. for R^2 .1945-.9387
Constant: -2.49780
Co-efficient: 2.44307
STD Error: .56061

The above estimated results show that variations in the regressor in this case the CFA/SDR exchange rate explain 65% of variations in exports and 73% of variations in imports.

1% Source of Data: ECA Statistics Division

2% Model Used: Interactive software for econometric analysis by John Eaton of the London Business School.

3% The Exchange Rates are taken from various editions of the International Financial Statistics of the IMF.

ANNEX II

Year	Debt Service Payments of Benin (In million US dollars)	F.F./US Dollar Exchange Rates
1978	5.8	4.5131
1979	5.7	4.2544
1980	7.9	4.2256
1981	18.5	5.4346
1982	15.2	6.5721
1983	26.2	7.6213

After logging the above data and carrying out a simple regression analysis in which we take the FF/US dollar as the explanatory variable and the debt service payments of Benin as dependent variable we obtain the following estimated results:

R^2 = .8202
Sums of squares
Total: 2.07835
Explained: 1.70473
Residual: .37363
95% C.I. for R^2 .1251 - .793
Constant: -1.53421
Co-efficient: 2.36690
STD Error: .55404

We assume in this example that the debt service payments of Benin are entirely settled in US dollars and that its export earnings are entirely in French franc, the currency used to service the debt.

The above estimated results show that variations in the regressor in this case the FF/US dollar exchange rate explain 82% of the variations in the debt service payments of Benin.

1% Source of Data: World Debt Tables: External Debt of Developing countries 1984-1985 Edition. The World Bank.

2% Model Used: Interactive software for econometric analysis by John Eaton of the London Business School.

3% The exchange rates are taken from various editions of the international financial statistics of the IMF.

ANNEX III

DEBT SERVICE, DEVELOPING AFRICA 1/

(In million US dollars)

	1978	1979	1980	1981	1982	1983	1984
Total Debt Service	5602.6	7804.3	11019.7	11975.5	12975.8	13766.3	15725.7
Official Creditors	1712.1	1914.8	2495.0	2906.9	2940.0	3249.0	4439.7
Multilateral	513.5	579.8	752.7	829.1	963.2	1157.3	1660.6
IBRD	344.3	447.6	517.5	550.3	630.8	748.3	960.4
IDA	21.0	24.7	25.4	61.6	56.7	57.1	67.6
Bilateral	1198.6	1335.0	1742.3	2077.8	1976.8	2091.7	2779.1
Private Creditors	3890.5	5889.5	8524.7	9068.6	10035.8	10517.3	11286.0
Suppliers	1842.9	2134.3	2746.5	2758.6	2809.4	2902.9	2667.2
Financial Markets	2047.6	3732.8	5778.2	6310.0	7226.4	7614.4	8618.8

Sources: (i) World Bank, World Debt Tables, 1984-85 Edition.

(ii) World Bank, World Debt Tables. 1985-86 Edition.

1/ Excluding Angola, Libyan Arab Jamahiriya, Mozambique and Sao Tome & Principe.